

across the transition from the acceleration conveyor to the product conveyor at a speed substantially equal to the predetermined speed[.] ; and  
an ejector downstream of the sensor and operably positioned to eject  
targeted paper crossing the transition.

### COMMENTS

The Examiner had rejected claims 16-32 under 35 U.S.C. §112, second paragraph, because of the reference to "belt" conveyor in lines 8 and 9. The references to "belt" conveyor have been deleted and thus it believed that the 112 problem has been eliminated.

Additionally, the Examiner rejected all pending claims 16-32 and 59-64 under 35 U.S.C. §103 based upon newly cited U.S. Patent No. 5,048,674 to Wilbur et al. in view of U.S. Patent No. 5,445,369 to Golicz et al. and newly cited U.S. Patent No. 5,305,894 to McGarvey. That rejection is respectfully traversed for the following reasons.

First, it is noted that claim 16 has been amended to eliminate the §112 problem, and also add a further clarification that the blowing system carries the paper "from the acceleration conveyor to the product conveyor", and to add the element of the "ejector downstream of the sensor" which was previously found in claim 17. The ejector has been added to clarify the point that the "blowing system" which was already present in claim 16, must be a different structure from the "ejector" and

provides a very different function from that of the ejector. The blowing system serves to carry the paper across the transition from the acceleration conveyor to the product conveyor, whereas the ejector is oriented to eject targeted paper out of the stream that crosses the transition, so that the ejected paper does not cross the transition. Two of the references cited by the Examiner have air blowing systems, but in both cases the air blowing systems in the cited references are ejectors which blow articles out of the stream. In no case do any of the cited prior art references show or suggest a blowing system which carries articles across a transition from an acceleration conveyor to a product conveyor.

The present invention as illustrated in Fig. 12, has an acceleration conveyor 86 and a product conveyor 102 which are both oriented to carry paper in the same direction from right to left as seen in Fig. 12. There is a transition space 156 between the downstream end of the acceleration conveyor 86 and the upstream end of product conveyor 102 which must be traversed by sheets of paper flying through the air from the acceleration conveyor 86 to the product conveyor 102. A sensor 23 is located directly above the acceleration conveyor 86 and it senses a parameter of the paper located upon the acceleration conveyor 86. The blowing system of the present invention which is described in detail in the section of the application entitled "THE AIR CIRCULATION SYSTEM", found at page 24 line 1 through page 27 line 12, facilitates carrying the paper across the transition at a speed substantially equal to the speed at which it was traveling on the acceleration conveyor 86 at the time it is examined by the sensor 23. This facilitates the location of and ejection of unwanted

paper by air jets from the ejectors 92 as the unwanted paper passes through the transition zone 156.

Turning now to the references relied upon by the Examiner, the Examiner's primary reference is Wilbur et al. U.S. Patent No. 5,048,674. The Examiner has described the Wilbur et al. reference as follows:

Wilbur et al. '674 disclose an apparatus and a method for handling light-weight articles comprising an acceleration conveyor 10 (fig. 1); a sensor 16 locating directly above the acceleration conveyor; a pinning structure 14 comprising a rotary feeder; a transition (unnumbered) after the acceleration conveyor; and blowing system 17 operatively positioning to facilitate to carry the articles across the transition. However, the articles of Wilbur et al. '674 are not papers and Wilbur et al. '674 do not have a product conveyor downstream of the acceleration conveyor.

With respect the Examiner has misdescribed the element 17 of Wilbur et al. Element 17 of Wilbur et al. is an ejection blower which, as clearly indicated with an arrow located at its lower end in Fig. 1, blows articles out of the path of articles exiting the acceleration conveyor. Furthermore, as noted by the Examiner, Wilbur et al. '674 does not disclose a product conveyor downstream of the acceleration conveyor and also Wilbur '674 does not deal with paper.

Thus, the Wilbur et al. '674 reference fails to teach the following elements of claim 16 as amended:

1. The feeding or sorting of paper;
2. A product conveyor downstream of the acceleration conveyor;

3. A transition between the acceleration conveyor and product conveyor;
4. A blowing system operatively positioned to facilitate carrying the paper across the transition from the acceleration conveyor to the product conveyor.

Turning now to the secondary references, the Examiner has cited Golicz et al. apparently only for its showing of handling paper. While it is acknowledged that Golicz does handle paper, with respect the Golicz patent is of very little relevance. Golicz is directed to a photocopy machine wherein the paper is constantly under a positive positioning control. Golicz has absolutely nothing to do with ejecting paper or any other article across a gap for purposes of sorting the articles.

Finally, the Examiner has cited the new McGarvey reference U.S. Patent No. 5,305,894 as follows:

McGarvey discloses an apparatus and a method for handling light-weight and flat shape articles comprising an acceleration conveyor 18; a sensor 24; a blowing system 38; a product conveyor 42; and a transition (unnumbered) locating between the acceleration and product conveyor. The product conveyor is oriented to carry articles in the same direction as the acceleration conveyor.

The McGarvey reference does teach acceleration conveyors and product conveyors with a transition between them and with an air ejector for blowing articles out of the transition space. The element 38 referred to by the Examiner as the "blowing system 38" is in fact simply an air ejector which blows articles out of the

transition. The element 38 of McGarvey does not in any way meet the description of the "blowing system" of claim 16 which is required to be positioned to facilitate carrying paper across the transition from the acceleration conveyor to the product conveyor.

Accordingly, this one key element of claim 16, namely the "blowing system operatively positioned to facilitate carrying the paper across the transition from the acceleration conveyor to the product conveyor at a speed substantially identical to the predetermined speed" is not shown or suggested by any of the cited references, and thus it is impossible for this combination of references to teach the invention of claim 16.

Claims 18-32 depend from claim 16 and should be allowed for the same reasons as claim 16. Additionally, claims 18, 19, 24, 25 and 29 all define further features of the "blowing system", which include a vacuum or low pressure zone downstream of the transition so as to aid in the air flow across the transition. None of the cited references in any way show or suggest the creation of a vacuum.

Turning now to independent method claim 59, it also focuses upon the same feature of transporting paper across a transition between an acceleration conveyor and a product conveyor by "creating a vacuum; and drawing the paper across the transition".

Since none of the cited references in any way show or suggest any air flow system for aiding transport of paper across a transition, much less the creation of a vacuum downstream of the transition, it is respectfully submitted that claim 59 and

all claims 61-64 depending therefrom are also allowable over the cited references.

Respectfully submitted,



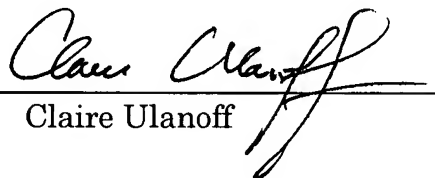
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I hereby certify that this Response is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on 3-4-03.

  
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3-4-03

Date